



CHAP, Chapel Cove at Laurel Lakes Townhouses

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 1 -- Catchment Information**

Subwatershed: Bear Branch

Location of Catchment Centroid on ADC Map: Year: 2001 Page: 4 Grid: E5

State Plane Coordinates of Outfall Location: X: 1349852 Y: 518393

Closest Road Intersection to Outfall: Chapel Cove Drive

Outfall SDI ID or Outfall Description: Located along south edge of Upper Lake portion of Laurel Lakes

Objective: Demonstration / Impairment(s) (Sheet 1) Demonstration, Water quality

Drainage Area (ac): 28.3 Impervious Area (ac): 11.5

Percent Impervious: 41% Soil Recharge Factor (S): 0.123

WQ_v (required): 0.986 Re_v (required): 0.121

Predominant Land Use: Townhouses Mean Depth to Ground Water: n/a

Sanitary System: Septic Municipal Sewer Water Supply: On Site Well Public Water

Storm Drainage System Within Catchment

Piped: 90% Open Channels: 10%

Area Drained by System: 100%

Location in Catchment: Headwaters Middle Lower All

Open Channel Lining- Vegetation: 100% Riprap: _____ Concrete: _____ Other: _____

Existing IMP(s) / BMP(s)

SDI ID: 85128A Type (number from Sheets 4 & 5): 16 Age: 17

Closest Road Intersection to IMP / BMP: Oxford Dr & Chapel Cove Dr

Catchment Area Treated (ac) : 28.3 Percentage Catchment Treated: 100%

WQ_v Provided: YES NO Re_v Provided: YES NO C_p Provided: YES NO

SDI ID: 85127A Type (number from Sheets 4 & 5): 16 Age: 17

Closest Road Intersection to IMP / BMP: Laurel Pl & Cherry La

Catchment Area Treated (ac) : 28.3 Percentage Catchment Treated: 100%

WQ_v Provided: YES NO Re_v Provided: YES NO C_p Provided: YES NO

SDI ID: _____ Type (number from Sheets 4 & 5): _____ Age: _____

Closest Road Intersection to IMP / BMP: _____

Catchment Area Treated (ac) : _____ Percentage Catchment Treated: _____

WQ_v Provided: YES NO Re_v Provided: YES NO C_p Provided: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 1 -- Catchment Information (concluded)**

CATCHMENT SUMMARY			
WQ _v (provided):	<u>0.47</u>	Re _v (provided) :	<u>0.05</u>
Area Treated (ac):	<u>28.3</u>	Impervious Area Treated (ac):	<u>5.69</u>
Area Treated (%):	<u>38%</u>	Impervious Area Treated (%):	<u>49%</u>

Comments

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 2 -- Site Information

Site Name: Chapel Cove at Laurel Lakes Address: varies
 Site Owner: varies
 State Plane Coordinates of Site Centroid: X: 1349852 Y: 518397 Date: 5/20/03
 Personnel: PM Weather: sunny, 75F deg
 Area (ac): 9.2 Impervious Area (ac): 5.4
 Percent Impervious: 59% Soil Recharge Factor (S): 0.109
 WQ_v (required): 0.446 Re_v (required): 0.049
 Property Area (ac): 9.2 Property Area Included in Site: 100%
 Amount of Catchment Occupied by Site: 33%

Storm Drainage System Within Site

Piped: 100% Open Channels: 0% Area Drained by System: 90%
 Open Channel Lining - Vegetation: 0% Riprap: 0% Concrete: 0% Other: 0%

Existing IMP(s) / BMP(s) (Identified on Page 1, FORM 1, Catchment Information)

SDI ID: _____ Condition: Excellent Good Average Fair Poor
 SDI ID: _____ Condition: Excellent Good Average Fair Poor
 SDI ID: _____ Condition: Excellent Good Average Fair Poor

Site Information

Type of Pavement: Bituminous Concrete Gravel Grid Pavers Other _____
 Pavement Condition: Excellent Good Average Fair Poor
 Underdrains can be easily directed to existing storm drains or daylighted: YES NO
 Gutter/Exterior Downspouts Present: YES NO
 Roof Connected Directly to Storm Drain: YES NO
 Roof Drains onto Impervious Surface: YES NO
 Obvious Existing Drainage Problems: Extensive Moderate Average Limited None
 Steep Slopes Present: Extensive Moderate Average Limited None
 Existing Landscaping: Extensive Moderate Average Limited None
 Mature / Specimen Trees: Extensive Moderate Average Limited None
 Area Available for Aboveground BMPs: Extensive Moderate Average Limited None
 Existing Cover of Potential Aboveground BMP Locations: Grass Landscaped Gravel Other Pervious
 Pavement Other Impervious

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 2 -- Site Information (concluded)**

Commercial / Institutional

Islands Present: YES NO

Curb Present Around Island: YES NO

Ground Level of Island Relative to Pavement: Above Equal Below

Island Landscaping: Impervious Bare Earth Gravel Grass Mulch Herbaceous Plants Shrubs
 Trees (<2 in. DBH) Trees (2 - 6 in. DBH) Trees (>6 in. DBH)

Trees have sufficient spacing to allow IMPs YES NO

Parking area that can be directed to potential treatment area with little grading: 75%

SITE SUMMARY			
WQ _v (provided) :	<u>0.47</u>	Re _v (provided):	<u>0.05</u>
Area Treated (ac) :	<u>10.71</u>	Impervious Area Treated (ac):	<u>5.69</u>
Area Treated (%) :	<u>100</u>	Impervious Area Treated (%):	<u>100</u>

Photographs

- No. 890 Description: looking north along west side of site
- No. 891 Description: looking east along South Shore Drive
- No. 892 Description: looking north along Chapel Cove Court
- No. 893 Description: looking west along South Shore Drive
- No. 894 Description: looking west along Chapel Cove Drive
- No. 895 Description: looking west along north side of property
- No. 896 Description: typical backyards
- No. 897 Description: typical front yard
- No. 898 Description: typical front view
- No. 899 Description: typical back view

Comments Little room for rain barrels, cisterns or planter box in front. Parking space appears to be at a premium.

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 2 -- Site Information**



890



891



892



893



894



895

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 2 -- Site Information (concluded)**



896



897



898



899

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 5

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 7, 16

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 2.0 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



900



905

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 45

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 7, 16

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 2.0 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY

WQ_v (provided): Undetermined Re_v (provided): _____

Area Treated (ac): 2.00 Impervious Area Treated (ac): 2.00

Photographs

No.	<u>900</u>	Description:	<u>typical downspout discharge</u>
No.	<u>905</u>	Description:	<u>typical constrained downspout discharge</u>
No.	_____	Description:	_____
No.	_____	Description:	_____
No.	_____	Description:	_____
No.	_____	Description:	_____
No.	_____	Description:	_____
No.	_____	Description:	_____

Comments Rain barrels/cisterns, as well as planters boxes, will be installed as space allows.

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



900



905

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 59

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 3, 7, 16

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other HOA common area

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.52 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY

WQ_v (provided): n/a Re_v (provided): n/a

Area Treated (ac): 0.52 Impervious Area Treated (ac): 0.00

Photographs

No.	<u>910</u>	Description:	<u>site a, looking southeast</u>
No.	<u>911</u>	Description:	<u>site b, looking south</u>
No.	<u>912</u>	Description:	<u>site c, looking south</u>
No.	<u> </u>	Description:	<u> </u>
No.	<u> </u>	Description:	<u> </u>
No.	<u> </u>	Description:	<u> </u>
No.	<u> </u>	Description:	<u> </u>
No.	<u> </u>	Description:	<u> </u>

Comments

IMP size = 22,650 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



910



911



912

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 60

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 3, 7, 16

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other HOA common area

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.78 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY	
WQ _v (provided): <u>n/a</u>	Re _v (provided): <u>n/a</u>
Area Treated (ac): <u>0.78</u>	Impervious Area Treated (ac): <u>0.78</u>

Photographs

No. <u>901</u>	Description: <u>typical parking area</u>
No. _____	Description: _____

Comments

IMP size = 33,975 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



901

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 2, 3, 4, 7, 16

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 1.75 ac 60%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



902



903

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 2, 3, 4, 7, 16

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 2.65 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.124</u>	Re _v (provided):	<u>0.004</u>
Area Treated (ac):	<u>2.65</u>	Impervious Area Treated (ac):	<u>1.50</u>

Photographs

No. <u>916</u>	Description: <u>looking east from dead end</u>
No. <u>913</u>	Description: <u>looking west</u>
No. <u>914</u>	Description: <u>looking west from Chapel Cove Court</u>
No. <u>915</u>	Description: <u>looking east from Chapel Cove Court</u>
No. _____	Description: _____

Comments

IMP size = 11,831 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



913



914



915



916

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 41

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 4

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 1.55 ac 90%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



904

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 41

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 4

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 1.12 ac 90%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



906

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 41

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 4

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 1.0 ac 90%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.061</u>	Re _v (provided):	<u>0.000</u>
Area Treated (ac):	<u>1.15</u>	Impervious Area Treated (ac):	<u>0.75</u>

Photographs

No. <u>907</u>	Description: <u>looking southwest</u>
No. _____	Description: _____

Comments

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



907

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 41

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 4

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 1.35 ac 90%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.056</u>	Re _v (provided):	<u>0.000</u>
Area Treated (ac):	<u>1.51</u>	Impervious Area Treated (ac):	<u>0.66</u>

Photographs

No. <u>908</u>	Description: <u>looking southeast</u>
No. _____	Description: _____

Comments

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



908

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 41

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 4

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.6 ac 90%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.036</u>	Re _v (provided):	<u>0.000</u>
Area Treated (ac):	<u>0.67</u>	Impervious Area Treated (ac):	<u>0.44</u>

Photographs

No. <u>909</u>	Description: <u>looking west</u>
No. _____	Description: _____

Comments

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



909

UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 52

State Plane Coordinates of IMP / BMP Centroid: X: _____ Y: _____

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 3, 7, 16

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other HOA common area

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.52 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY	
WQ _v (provided): <u> n/a </u>	Re _v (provided): <u> n/a </u>
Area Treated (ac): <u> 0.52 </u>	Impervious Area Treated (ac): <u> 0.00 </u>

Photographs

No. <u> 910 </u>	Description: <u> site a, looking southeast </u>
No. <u> 911 </u>	Description: <u> site b, looking south </u>
No. <u> 912 </u>	Description: <u> site c, looking south </u>
No. <u> </u>	Description: <u> </u>
No. <u> </u>	Description: <u> </u>
No. <u> </u>	Description: <u> </u>
No. <u> </u>	Description: <u> </u>
No. <u> </u>	Description: <u> </u>

Comments

IMP Size = 22,650 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



910



911



912